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A New Record of *Hydraena quadricollis* Wollaston (Coleoptera: Hydrophilidae) from India.

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As Balfour-Browne (1956) indicated little has been done in studying the Hydrophilidae of India. The authors in attempting to intensify study of Indian water beetles came upon the species described herein. These beetles were observed crawling on decaying twigs that were floating on the surface of water.

Hydraena quadricollis Wollaston[1] was described from Teneriffe and has also been recorded earlier but from the Canary Islands and Cape Verde Islands both on the West coast of Africa in the Atlantic Ocean. *Hydraena nilotica* Rey recorded from Egypt and Tunisia has already been synonymised with *Hydraena quadricollis* Wollaston by d'Orchymont in 1940. This report now further enlarges its recorded range.

Balfour-Browne (1958) has examined different British species of the Hydraenid group and has noted that while some species are brachypterous, others like *Hydraena pygmaea* Waterh. had no wings at all. In still others which he examined in dry mounted condition he noted that the material present was insufficient for making the normal sized wings. The well developed posterior pair of wings and the internally sculptured aedaegophore with each paramere terminally quadruplicated are the features of *Hydraena quadricollis* Wollaston. Fuller information of this species appended with figures is given so that the aquatic coleopterists of other parts of the world will find it easy to identify this small and obscure species (Balfour-Browne 1958, p. 180).

The specimens have been collected from Poona and vicinity in Maharashtra State, the little explored part of this country. The city itself is situated at latitude 18° 30' N and longitude 73° 51' E. The altitude of this place is 1850 feet above sea level and about 63 miles in straight line from west coast. The city lies in the shadow of Western Ghats and surrounded by hills and steep mountains.

Hydraena quadricollis Wollaston

(Fig. 1).

Rather elongated, ochraceous with head pitchy, maxillary palps and basal

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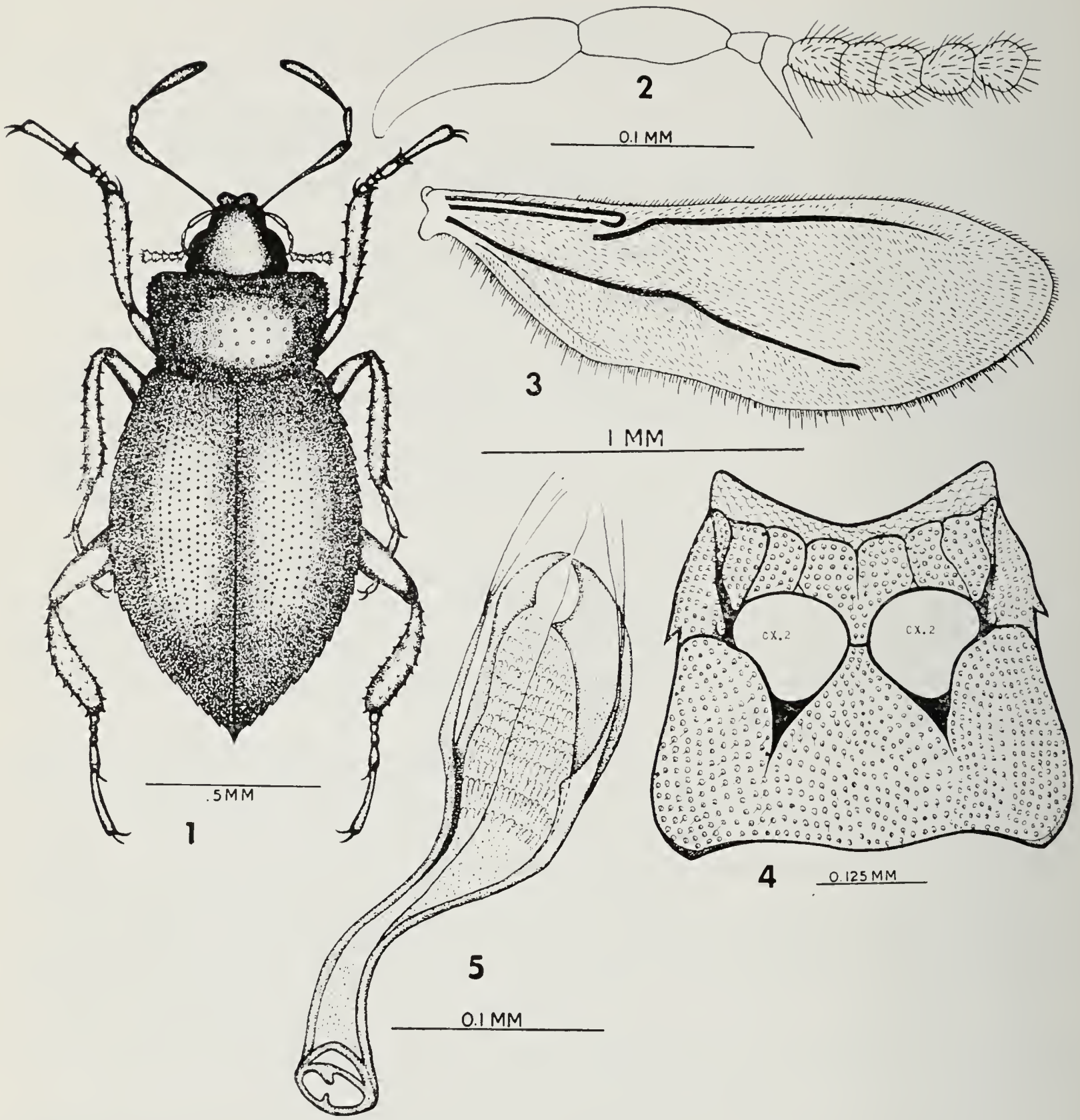
[1]This species has ten pairs of spiracles and not eight as reported by Hrbàcek (1949) for *Hydraena ripara* kugel; *Hydraena emarginata* Ray; *Hydraena gracilis* and *Hydraena saga* d'Ochrymont. However this matter will be dealt elsewhere by one of us (V.A.O.)



FIGURES 1-5—Fig. 1. *Hydraena quadricollis* Wollaston. Fig. 2. Antenna. Fig. 3. Posterior Wing. Fig. 4 Meso- and metasternum of *Hydraena quadricollis* Wollaston showing the septacarinate ridging. Cx. 2. Second coxal cavities. Fig. 5. Aedaegophore, Dorsal view showing the curved stiff tube and associated appandages. Figure is drawn with transmitted light and as seen before mounting.

pieces of antennae testaceous, club five segmented, hairy and ochraceous. Elytra and legs testaceous. Underside punctate, setate, and infuscate. No obvious sexual dimorphic characters.

SIZE—1.5 mm.

HEAD—Larger than broad, piceous to pitchy coloration, broadly and rather sparcely punctured in front, closely and coarsely behind and along the lower margins of the eyes. Labrum very deeply emarginate. Maxillary palpi very long,

about twice the length of the head, 4 segmented, second longest and larger than third and fourth segments put together. Terminal joint tapered but not very acuminate. Antennae nine segmented with a five-segmented hairy club. Segments three and four quite small, the fourth segment with an acute spine. (Fig. 2).

PRONOTUM—Wider than long, anterior side slightly broader than posterior, a little dilated laternally just before the middle and feebly narrowing towards the base, the hind angles rectangular while the front ones are rounded. Punctures in the form of shallow but broad and sparcely distributed depressions. Borders testaceous with central part rather ochraceous, the lateral border corrugated, i.e. wrinkled into folds of wavy outline and not serrated (See Balfour-Browne 1958). The borders apparently appear serrated but when viewed under high power the corrugations are clearly seen.

ELYTRA—Elytra oblong oval, testaceous with fifteen rows of moderately coarse rather round punctures, the rows converging at the posterior end. Anteriorly curved margins crenulate, lateral margins serrated and apex with a minute emargination. Posterior wings much longer than the abdomen (Length 1.92 mm) and as such this species at least is not brachypterous (Fig. 3).

UNDERSIDE—Meso- and metasternum septacarinate above the second coxal cavities (Fig. 4), broadly, coarsely, and sparely punctured with stiff setae arising from them. The broad and coarse punctures closely placed below the coxal cavities to give the asperate appearance. The setae arising from the punctures point posteriorly and medially while the lateral ones point outwards. The sternal plates also broadly and coarsely punctate and a single posteriorly directed seta takes its origin from each depression. The entire under-surface acts as a hydrofuge, pubescent except for the last two sternal segments which are with relatively few setae.

LEGS—All three pairs testaceous, tibiae not curved, not dilated anywhere along their length, rows of spurs on all sides with a larger spur at the distal end. Tarsal segments of the anterior legs with few hairs.

AEDEAGOPHORE— (Fig. 5). This consists of the median lobe on each side of which are the parameres articulated by the condyles. Each paramere is broad basally while tapered to form distinct flagellae on each side. The main aedeagus body is a stiff and curved tube. The ejaculatory duct running through the tube presumably takes the shape of a flagellum (Lindroth and Palmen, 1956).

HABITAT.

All the specimens were collected from the surface of the aquatic habitats like a pond in the garden, discarded well, or the river sides where these were found to be associated with twigs, decaying plants and other floating objects. These localities are partially shaded by the marginal vegetation. The soil is muddy and at places sandy gravel. The eggs have also been collected and these were found to be inserted in the parts of floating vegetation which had undergone some decay and often rotting.

LOCALITY—S. W. India, Maharashtra State, Poona City. River Mutha: 5 Males and 2 Females V. A. Ozarkar. 29 Sept. 1965. 4 Males in discarded well at Hingane Village 17 Oct. 1965. 10 Males and 10 Females from underside of floating nymphea leaves, pond, law college premises Poona in the middle of August, 1958. (G. T. Tonapi). Two Males and one Female deposited in the collection of the British Museum (Natural History). 2 Females and 2 Males are being sent to the Zoological Survey of India, Calcutta, and a few are in the authors collection at the Department of Zoology, University of Poona, Ganeshkhina, Poona 7.

We are much indebdted to Mr. J. Balfour-Browne (B.M. (N.H.), London) for keen interest, advice, and identification of the specimens. One of us (V.A.O.) is also grateful to the authorities of the University Grant Commission for the financial assistance and to the authorities of the University of Poona for facilities. Thanks are also due to Prof. (Dr.) L. Mulherkar for encouragement.

SUMMARY

Hydraena quadricollis Wollaston is recorded for the first time from the Indian subcontinent. Several males and females were taken floating on water along with twigs and undersurface of aquatic plants from various aquatic habitats of Poona.

LITERATURE CITED.

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Note

More on the Brendel publication.—The Bulletin of the Scientific Association of Peoria is not as rare as reported (Coleopterists' Bulletin, 22:32) according to T. J. Spilman who supplies the following information. Copies exist at Yale, U. S. Department of Agriculture, John Crear Library in Chicago, University of Illinois, American Academy of Arts and Sciences in Boston, Gray Herbarium Library at Harvard, Museum of Comparative Zoology, New York Botanical Gardens, Academy of Natural Sciences of Philadelphia, American Philosophical Society, and the University of Wisconsin. Part of Brendel's collection, part of the Pselaphidae, is at the Academy of Natural Sciences of Philadelphia and part, *via* Wickham, in the Psota collection at the Field Museum of Natural History in Chicago. Still further information is supplied by John K. Bouseman who writes that the Peoria Scientific Association apparently published only one issue of its *Bulletin,* that in 1887. The Brendel article appears on pages 53 to 63, so it appears that the mimeographed copy in the CSC files donated by Kenneth E. Weisman is a later reproduction of the work. It is of some interest to note that S. A. Forbes' classic essay entitled "The Lake as a microcosm" first appeared in this bulletin. Thirty-eight years later it was reprinted in the Bulletin of the Illinois State Natural History Survey where it must have reached a much larger audience. I thank both of these correspondents for their interest in this subject.—R. H. ARNETT, JR.